UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Northwest Region
7600 Sand Point Way N.E., Bldg. 1
Seattle, WA 98115

NMFS Tracking No.:
2004/00230

July 27, 2004

Mr. Ken Hutchinson
Bonneville Power Administration
Six West Rose, Suite 400
Walla Walla, Washington 99362

Re: Endangered Species Act Section 7 Formal Consultation and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Consultation for the Touchet-Bernard Bridge project in the South Fork Touchet River.

Dear Mr. Hutchinson:

In accordance with section 7 of the Endangered Species Act (ESA) of 1973, as amended, 16 U.S.C. 1531, *et seq*. and the Magnuson-Stevens Fishery Conservation and Management Act (MSA), as amended by the Sustainable Fisheries Act of 1996, 16 U.S.C. 1855, the attached document transmits the National Marine Fisheries Service (NOAA Fisheries) Biological Opinion (Opinion) and Essential Fish Habitat (EFH) consultation on the proposed Touchet-Bernard Bridge in Columbia County, Washington.

The Bonneville Power Administration (BPA) determined that the proposed action is likely to adversely affect the Middle Columbia River steelhead (*Oncorhynchus mykiss*) Evolutionarily Significant Unit (ESU). Formal consultation was initiated on March 5, 2004. The Opinion reflects the formal consultation and an analysis of effects covering the above listed species in the Columbia River above Wind River, Washington, upstream to, and including the Yakima River, Washington. The Opinion is based on information provided in the biological assessment received by NOAA Fisheries on March 5, 2004, and subsequent information transmitted by telephone conversations, fax, and electronic mail. A complete administrative record of this consultation is on file at the Washington State Habitat Office.

NOAA Fisheries concludes that the implementation of the proposed project is not likely to jeopardize the continued existence of the Middle Columbia River steelhead ESU. Please note that the incidental take statement, which includes reasonable and prudent measures and terms and conditions, was designed to minimize take resulting from the proposed action.

The BPA determined that EFH would be adversely affected by the proposed action. Through the MSA consultation NOAA Fisheries concluded that the proposed project may adversely impact designated EFH for chinook salmon (*Oncorhynchus tshawytscha*). Specific Reasonable and Prudent Measures of the ESA consultation, and Terms and Conditions identified therein, would address the negative effects resulting from the proposed action. Therefore, NOAA Fisheries recommends that they be adopted as EFH conservation measures.

If you have any questions, please contact Debbie Spring of the Washington State Habitat Office at (509) 962-8911 or email at debbie.spring@noaa.gov.

Sincerely,

D. Robert Lohn
Regional Administrator

Enclosure

Endangered Species Act Section 7 Consultation
Biological Opinion
and
Magnuson-Stevens Fishery Conservation and Management Act
Essential Fish Habitat Consultation

Touchet-Bernard Bridge Project
Middle Columbia River Steelhead
Sixth Field HUC South Fork Touchet River - 170701020304,
Columbia County, Washington

Lead Action Agency:	Bonneville Power Administration
Consultation Conducted By:	National Marine Fisheries Service Northwest Region
Date Issued:	July 27, 2004
Issued by:	Russell M Strach for D. Robert Lohn Regional Administrator
NMFS Tracking No.:	2004/00230

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1.0 INTRODUCTION

The Endangered Species Act (ESA) of 1973 (16 U.S.C. 1531-1544), as amended, establishes a national program for conserving threatened and endangered species of fish, wildlife, plants, and the habitat on which they depend. Section 7(a)(2) of the ESA requires Federal agencies to consult with NOAA's National Marine Fisheries Service (NOAA Fisheries) and the United States Fish and Wildlife Service (together "the Services"), as appropriate, to ensure that their actions are not likely to jeopardize the continued existence of endangered or threatened species. This biological opinion (Opinion) is the product of an interagency consultation pursuant to section 7(a)(2) of the ESA and implementing regulations 50 CFR 402.

The analysis also fulfills the Essential Fish Habitat (EFH) requirements under the Magnuson-Stevens Fishery Conservation and Management Act (MSA) as amended (16 U.S.C. 1801 *et seq.*). The MSA established procedures designed to identify, conserve, and enhance EFH for those species regulated under a Federal fisheries management plan. Federal agencies must consult with NOAA Fisheries on all actions, or proposed actions, authorized, funded, or undertaken by the agency, that may adversely affect EFH (section 305(b)(2)).

This document transmits NOAA Fisheries Opinion and EFH consultation based on our review of the Touchet-Bernard Bridge project in Columbia County, Washington. Touchet-Bernard Bridge crosses the South Fork of the Touchet River, which is a tributary of the Walla Walla River, which in turn is a tributary to the Columbia River. Touchet River is located in the Mid-Columbia River (MCR) steelhead (*Oncorhynchus mykiss*) Evolutionarily Significant Unit (ESU) and is EFH for chinook (*O. tshawytscha*) salmon.

1.1 Background and Consultation History

On March 5, 2004, NOAA Fisheries received from the Bonneville Power Administration (BPA) a biological assessment (BA) for the Touchet-Bernard Bridge project. The consultation also included telephone conversations and emails between NOAA Fisheries staff and the BPA that are included in the administrative record. The administrative record for this consultation is on file at NOAA Fisheries, Washington State Habitat Office in Lacey, Washington.

1.2 Proposed Action

Proposed actions are defined in the Services' consultation regulations (50 CFR 402.02) as "all activities or programs of any kind authorized, funded, or carried out, in whole or in part, by Federal agencies in the United States or upon the high seas." Additionally, U.S. Code (16 U.S.C. 1855(b)(2)) further defines a Federal action as "any action authorized, funded, or undertaken or proposed to be authorized, funded, or undertaken by a Federal agency." Because BPA proposes to fund and construct the project and this action may affect listed resources, it must consult under ESA section 7(a)(2) and MSA section 305(b)(2).

The BPA proposes to replace an existing ford across the South Fork of the Touchet River with a bridge. Significant elements of the proposed action include stabilizing streambanks at the ford

site, building a new bridge, armoring the bridge abutments with riprap, installing a rock barb, and building a short length of new road to connect the bridge to the existing access road. The project is intended to improve road safety while reducing the sedimentation and stream channel instability caused by the ford.

1.2.1 Construction of the New Bridge

The new bridge will be a pre-cast concrete structure with steel pile abutments. Steel pilings will be set outside of the normal high water mark. During the installation of the east bridge footing, a temporary cofferdam will be used. While the cofferdam is being constructed, a fishery biologist on site will remove any and all fish from the cofferdam area. The first attempt will be to try and herd the fish out of the area before the cofferdam is closed off. Once the cofferdam is in place, and before any equipment enters the isolated area, if listed fish are stranded, they will be first removed by the use of dip nets, and then electrofishing, and released upstream at an appropriate habitat near the project area. If electrofishing is employed, the contractor will follow the *Guidelines for Electrofishing Waters Containing Salmonids Listed Under the Endangered Species Act* (NMFS 2000). These guidelines reduce the adverse impacts of electrofishing on fish and increase electrofishing efficiency.

The west bridge footing can be installed in-the-dry and does not require a cofferdam. Aggregate will be used to raise the grade of the bridge approaches and to surface the existing dirt road. Select trees will be removed to facilitate access to the bridge and to clear the access road. Erosion control management and best management practices (BMPs) will be used to limit sediment transport.

1.2.2 Access Road Construction

Included in the project is the construction of approximately 480 feet of associated graveled dirt road. Water bars and rocked drain dips will be constructed to minimize sediment delivery to the South Fork Touchet River. The road will extend from the South Touchet Road on the west side of the river to the new bridge and across to connect with the existing dirt road on the east side of the river. The existing dirt road serving Tower 32/5 will also be stabilized using gravel.

1.2.3 Bank Reconstruction

The existing banks outside the bridge-footprint area will remain undisturbed. Bank reconstruction will include the construction of a two to one ratio slope, covered in riprap, under the bridge. Approximately 120 cubic yards of riprap material will be placed along the streambank upstream and downstream of each bridge abutment. The area of bank stabilization will extend approximately 15 feet beyond the limits of the new bridge deck.

The large woody debris and root wads that are removed to provide room for the new bridge, will be installed in a manner to further stabilize the streambank at the bridge site and to enhance fish habitat. Additional riparian planting (1.5 to 1 replacement ratio) and broadcast seeding of disturbed areas will be implemented to provide improved bank stability and erosion control.

For additional bank protection, a rock barb velocity dissipater (designed by Washington Department of Fish and Wildlife (WDFW) to be fish friendly) will be installed upstream of the bridge. The dissipater (J-Hook Rock Vanes) will be composed of approximately 25 cubic yards of clean aggregate material placed below the ordinary high water line and will be constructed from the shore, with no instream equipment operation.

1.2.4 Timing of Project Activities

Construction will occur during the in-water work period of July 15 through August 20 when the abundance of salmonids at the project site is expected to be relatively low.

1.2.5 Conservation Measures

The BPA will minimize adverse effects to listed fish by:

1. Designing new road surfaces to allow runoff to drain onto vegetated areas, to trap sediment before it enters the South Fork Touchet River.

2. Surfacing the new road segment as well as the existing access dirt road to Tower 32/5 with crushed rock/gravel to maintain surface drainage and to maintain stability and erosion-resistance.

3. Constructing the new road in dry weather to reduce sediment delivery to the South Fork Touchet River. If unseasonable wet weather is experienced, work may need to be halted if erosion cannot be adequately controlled during construction.

4. Locating re-fueling and fuel storage areas outside of Riparian Reserves or on a road, away from water drainage areas, where the largest possible spill can be contained before entering water.

5. Ensuring that all equipment will be free from leaking fuel, oil, hydraulic fluid, and other external petroleum based products. Equipment operators will be required to have a hazardous material spill kit at the project site at all times. There will be a daily maintenance check of all equipment.

6. If available, using equipment that can utilize vegetable based hydraulic products during construction activities.

7. During installation of east bridge footing, flowing water will not be in contact with the active construction site. Methods such as silt fences, straw bales, and filter cloth will be used to reduce sediment. Construction equipment contact with flowing water will be minimized or avoided. Water diversions will be accomplished by means of cofferdams, pumping, lined ditches, piping, or moving the water from side to side within the normal channel.

8. Turbid water will be pumped from behind the cofferdam into settling tanks before returning to the channel to reduce sediment introduction into the South Fork Touchet River.

9. Sediment barriers will be used as needed to prevent sediment from reaching surface waters during abutment excavation activities and from stockpiles of soil generated during fill excavation of the Touchet-Bernard Bridge over the South Fork Touchet River.

10. Disturbed areas will be replanted, seeded and mulched with native plants/seed and straw as soon as work has been completed.

11. All instream work will be completed during the in-water work window of July 15 to August 20.

The contract inspector and/or contracting officer's representative will monitor the sites during construction activities to ensure that conservation measures are applied and functioning as intended. The BPA will visually monitor the site, instream structure, and banks for any erosion or structural damage following the first rains after the construction activities are completed. If any additional action is required at the site, BPA will consult NOAA Fisheries as warranted before taking further action.

1.3 Description of the Action Area

The action area is defined as all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action (50 CFR 402.02). The action area for the proposed action is the stream channel, water, and land (including submerged land) from approximately 250 feet upstream of the existing ford crossing to areas affected by the proposed action approximately one river mile downstream from the new Touchet-Bernard Bridge. The action area also includes the adjacent riparian zone within the construction area and all areas affected by the project including staging areas, catch basins, and roadways.

2.0 ENDANGERED SPECIES ACT

2.1 Biological Opinion

The objective of this Opinion is to determine whether the proposed action is likely to jeopardize the continued existence of MCR steelhead (*Oncorhynchus mykiss*). Because critical habitat is not designated for these species, the analysis for destruction or adverse modification of critical habitat is not presented.

2.1.1 Evaluating Proposed Actions

The prohibition of jeopardy is set forth in section 7(a)(2) of the ESA. The standard for determining jeopardy is found at 50 CFR 404.02. In conducting a jeopardy analysis under section 7 of the ESA, NOAA Fisheries uses the following steps: (1) consider the biological requirements and status of the listed species; (2) evaluate the relevance of the environmental baseline to the species' current status; (3) determine the effects of the proposed or continuing action on the species, and whether the action is consistent with any available recovery strategy; and (4) determine whether the species can be expected to survive with an adequate potential for recovery when the effects of the proposed or continuing action are added to the effects of the environmental baseline, along with any cumulative effects. The analysis must consider measures for survival and recovery specific to other life stages. If jeopardy is found, NOAA Fisheries must identify reasonable and prudent alternatives for the action that avoid jeopardy, if any.

The jeopardy analysis requires focus on the action area and defines the proposed action's effects in terms of the species' biological requirements in that area (*i.e.*, effects on habitat) as well as focus on the species itself. The analysis describes the action's effects on individual fish, populations, or both, and places those effects in the context of the ESU as a whole.

2.1.1.1 Biological Requirements

The first step NOAA Fisheries uses when applying ESA section 7(a)(2) is to define the biological requirements of the listed ESU affected by the action. Biological requirements are those conditions necessary for the MCR steelhead to survive and recover to such naturally reproducing population sizes that protection under the ESA would become unnecessary. To be delisted, species or ESU populations must have the following attributes: sufficient numbers and distribution to maintain genetic diversity and heterogeneity, the ability to adapt to and survive environmental variation, and spatial and structural diversity sufficient to ensure long-term, self-sustaining persistence in the natural environment.

The requirements for any MCR steelhead life stage, include sufficient food, adequate flowing water (quantity), high quality water (cool, free of pollutants, high dissolved oxygen concentrations, low sediment content), clean spawning substrate, and unimpeded migratory access to and from spawning and rearing areas (adapted from Spence *et al.* 1996). The specific biological requirements affected by the proposed action include water quality, food, and unimpeded migratory access.

2.1.1.2 Status and Generalized Life History of Listed Species

The MCR steelhead evolutionarily significant unit (ESU) was listed as threatened under the ESA by NOAA Fisheries on March 25, 1999 (64 FR 14517). Protective regulations for MCR steelhead were issued under section 4(d) of the ESA on July 10, 2000 (65 FR 42422). The major drainages in the MCR steelhead ESU are the Deschutes, John Day, Klickitat, Umatilla, Walla Walla, and Yakima river systems. Steelhead of the Snake River Basin are not included in the MCR steelhead ESU.

The Klickitat, Yakima, Touchet, and Umatilla systems are all well below their interim abundance targets (Table 1). The John Day and Deschutes are at or above their interim targets for abundance; however, there is significant concern regarding the straying of fish into the Deschutes system from other ESUs (Table 1). The productivity estimate of the MCR ESU is approximately 0.94 (95% CI: 0.69, 1.27) (McClure *et al.* 2003), indicating that the productivity of MCR steelhead is depressed. NOAA Fisheries biological review team (BRT) has determined that the MCR ESU is likely to become endangered because of low abundance and depressed productivity.

Table 1: Interim Abundance Targets for the MCR Steelhead ESU (adapted from NOAA Fisheries 2003).

ESU/Spawning Aggregations*	Interim Abundance Targets	Current vs. Target	Interim Productivity Objective
Touchet R.	**900**	**32%**	Middle Columbia ESU populations are well below recovery levels. The geometric mean Natural Replacement Rate (NRR) will therefore need to be greater than 1.0
Klickitat R.	3,600	below target	
Yakima R.	8,900	10%	
Umatilla R.	2,300	72%	
Deschutes (Below Pelton Dam Complex)	5,400	103%	
John Day R.			
North Fork	2,700		
Middle Fork	2,700		
South Fork	600		
Lower John Day	3,200		
Upper John Day	2,000	113%	

* Population in bold is addressed in this Opinion

Life History.

All steelhead in the Columbia River Basin upstream from the Dalles Dam are summer-run, inland steelhead (Busby *et al.* 1996). Summer steelhead generally return to freshwater between May and October after spending one or, more commonly, two years in oceanic waters (Busby *et al.* 1996, Wydowski and Whitney 1979). Returning steelhead in the Columbia River generally spend an additional year in freshwater before spawning (Wydowski and Whitney 1979). In Washington, most populations begin spawning in February or March (Busby *et al.* 1996). Depending on water temperature, steelhead eggs incubate for 1.5 to 4 months before hatching (61 FR 41542). Bjornn and Reiser (1991) noted that steelhead eggs incubate about 85 days at 4 degrees Celsius and 26 days at 12 degrees Celsius to reach 50% hatch. In wild populations, juveniles generally migrate to sea at age two, but hatchery conditions permit steelhead to smolt after one year (Wydowski and Whitney 1979).

Six stocks of steelhead within the MCR ESU were identified as at risk of extinction or of special concern (Nehlsen *et al.* 1991). Long-term spawning surveys have not been conducted in the Walla Walla River, and as a consequence, reliable population estimates are unavailable (WDF *et al.* 1993). The WDF *et al.* (1993) identified the stock as depressed and Nehlsen *et al.* (1991) identified it as of special concern. Several factors have contributed to the decline of MCR steelhead. These include habitat degradation resulting from grazing and water diversion, overharvest, predation, hydroelectric dams, hatchery introgression, drought, and other natural or human-induced factors (Bugby *et al.* 1996).

The only naturally-occurring populations of anadromous fish present in the Walla Walla River subbasin are MCR steelhead. The MCR steelhead are still found throughout much of their historic range in the Walla Walla River subbasin. There are no accurate historic estimates of MCR steelhead returns to the Walla Walla River subbasin, but the run size is believed to have been 4,000 to 5,000 fish. Factors linked to the declining steelhead population in the Walla Walla River subbasin include changes in flow regimes, riparian conditions, water temperatures, substrate, and passage impediments (Washington State Conservation Commission, 2001).

Steelhead are found throughout the Walla Walla watershed including the North and South Forks and several of their tributaries, Mill Creek and several of its tributaries, Dry Creek, and the Touchet River basin (Kuttel 2001). Spawning and rearing habitat in the Touchet River drainage includes the North, South, Wolf, and Robinson Forks, along with Coppei and Patit Creeks, and the mainstem of the Touchet upstream from the mouth of Coppei Creek.

Steelhead of the Touchet River watershed are typical of A-run inland steelhead. These are stream-maturing fish that spend an extended period of time in freshwater before spawning. Adult A-run fish enter the Columbia River from June to August and pass Bonneville Dam on their migration during the first of two peaks in the Columbia River steelhead run. The break points between these peaks is somewhat arbitrarily set at August 25, with A-run fish migrating past Bonneville before this date and B-run fish destined for the Clearwater and Salmon Rivers migrating after the 25th (Busby *et al.* 1996). After passing Bonneville Dam, steelhead destined for the Touchet River continue their migration up the Columbia through the remainder of the summer and fall until reaching the mouth of the Walla Walla River. Steelhead start to enter the Walla Walla River with rising stream flows that typically occur in late November and December.

Spawning in the South Fork Touchet River typically begins about mid-March. Fry emerge from the gravel between May and mid-July. Steelhead young rear for two years in the South Fork Touchet before beginning outmigration with spring high flows. They will spend one to two years in the ocean before returning to spawn.

Escapement records for the Oregon portion of the upper mainstem Walla Walla River have been collected at the Nursery Bridge Dam Ladder. The number of adult steelhead returning to the Walla Walla River subbasin declined throughout the 1990s, but significantly improved in the 1999-2000 run year, when all Columbia River returns were up (Saul *et al.*, 2001). Estimated adult escapement for MCR steelhead from 1992 to 1997 averaged less than 500 adults for the South Fork Walla Walla (SFWW) River. In 1992, there were approximately 760 adults, and in 1997, there were approximately 400 adult MCR steelhead. However, according to Oregon Department of Fish and Wildlife (ODFW), there has been a continual increase of returning wild

stocks in the SFWW River over the last several years as compared to previous years (Bureau of Land Management, 2001). However, based on available data, the steelhead stock in the Walla Walla is classified as depressed (WDF *et al*. 1993).

There is no direct commercial fishery on this stock although incidental catch of wild steelhead occurs in the Columbia River. The Cayuse, Walla Walla, and Umatillas, known collectively as the Confederated Tribes of the Umatilla Indian Reservation, harvest this stock at unknown numbers.

2.1.1.3 Environmental Baseline

The environmental baseline is defined as "the past and present impacts of all Federal, state, or private actions and other human activities in the action area, including the anticipated impacts of all proposed Federal projects in the action area that have undergone section 7 consultation and the impacts of state and private actions that are contemporaneous with the consultation in progress" (50 CFR 402.02). NOAA Fisheries' evaluates the relevance of the environmental baseline to the species' current status. In describing the environmental baseline, NOAA Fisheries evaluates the condition of essential features of critical habitat, if designated, and its ability to support the listed ESU.

The project site is located on the South Fork of the Touchet River in Columbia County, Washington. The project site is within the northwest quarter of the northeast quarter of Section 28, Township 9 North, Range 39 East, Willamette Meridian. Columbia County is a geographically diverse county located in the foothills of the Blue Mountains of southeastern Washington. The landscape ranges from rolling fields of wheat to mountain wilderness areas. Elevation above sea level varies from 504 feet at the Snake River to 6,401 feet at the Oregon Butte. The area's economy has been predominantly reliant upon agriculture since the mid-1800's, with wheat, barley, peas, and asparagus the major crops grown and/or processed (Dayton 2003).

The action area is heavily wooded, containing adequate riparian vegetation. The streambanks at the site of the current ford are unstable, eroding, and transmitting sediment into the river upstream of the proposed bridge site. Continued vehicle use of the ford worsens this situation.

Fish use the South Fork of the Touchet River for spawning, rearing, and as a migration corridor. Important features of the adult spawning, juvenile rearing, and adult and juvenile migratory habitat for the species include substrate, water quality, water quantity, water temperature, water velocity, cover/shelter, food, riparian vegetation, space, and safe passage conditions (Bjornn and Reiser 1991; NOAA Fisheries 1996b; Spence *et al.* 1996). The proposed actions addressed in this Opinion may affect all of the above factors.

To conduct this analysis, NOAA Fisheries evaluated the Environmental Baseline at the subbasin and watershed scale. The evaluation relies on characterizing the functional condition of various habitat "pathways and indicators" described great detail in *Making Endangered Species Act Determinations of Effect for Individual or Grouped Actions at the Watershed Scale* (Matrix of Pathways and Indicators [MPI], NMFS 1996). Using the MPI, NOAA Fisheries can assess the current condition of instream, riparian, and watershed factors that collectively provide properly

functioning aquatic habitat, meeting the biological requirements of the affected species. See, Appendix 1.

In the South Fork Touchet River watershed, one habitat indicator is properly functioning (chemical contaminants/nutrients). Seventeen indicators are functioning at risk (sediment, physical barriers, substrate embeddedness, large woody debris, pool frequency and quality, large pools, off-channel habitat, refugia, wetted width/maximum depth ratio, floodplain connectivity, change in peak/base flows, drainage net increase, road density and location, disturbance history, riparian habitat conservation areas, and disturbance regime). One indicator is not properly functioning (temperature). As mentioned in section 2.1.1.1 above, water quality (at risk for sediment and temperature), food availability, and migratory access (functioning at risk) are likely to be affected by the proposed action.

2.1.2 Analysis of Effects

Effects of the action are defined as "the direct and indirect effects of an action on the species, or critical habitat, together with the effects of other activities that are interrelated or interdependent with the action, that will be added to the environmental baseline." Interdependent actions are those that have no independent utility apart from the action under consideration. Interrelated actions are those that are part of a larger action and depend on the larger action for their justification (50 CFR 402.02).

2.1.2.1 Direct Effects

Direct effects are the immediate effects of the project on the species or its habitat. Direct effects result from the agency action and include the effects of interrelated and interdependent actions. Future Federal actions that are not a direct effect of the action under consideration (and not included in the environmental baseline or treated as indirect effects) are not evaluated (USFWS and NMFS 1998).

Water Quality. The proposed action will affect water quality in the action area. The proposed action includes construction in and near the water. Typical construction activities mobilize sediment, leading to temporary increases in local turbidity levels. Within several meters of construction, the level of turbidity would likely exceed natural background levels, adversely affecting fish. However, the proposed action includes measures intended to minimize both the likelihood and extent of such effects on listed salmonids.

Quantifying turbidity levels and their effect on fish species is complicated by several factors. First, turbidity from an activity typically decreases as distance from the activity increases. How quickly turbidity levels attenuate depends on the quantity of materials in suspension (*e.g.*, mass or volume), the particle size of suspended sediments, the amount and velocity of ambient water (dilution factor), and the physical/chemical properties of the sediments. Second, the impact of turbidity on fish is not only related to the turbidity levels, but also the particle size of the suspended sediments, the temperature of the water, and the life stage of the fish.

For salmonids, turbidity has been linked to a number of behavioral and physiological responses (*i.e.*, gill flaring, coughing, avoidance, increase in blood sugar levels) which indicate some level

of stress (Bisson and Bilby 1982; Sigler *et al.* 1984; Berg and Northcote 1985; Servizi and Martens 1992). The magnitude of these stress responses are generally higher when turbidity is increased and particle size decreased (Bisson and Bilby 1982; Servizi and Martens 1987; Gregory and Northcote 1993). Although turbidity may cause stress, Gregory and Northcote (1993) have shown that moderate levels of turbidity (35-150 nephelometric turbidity unit [NTUs]) accelerate foraging rates among juvenile chinook salmon, likely because of reduced vulnerability to predators (camouflaging effect).

The proposed action will cause sediment pulses, each lasting a few minutes, over a period of several days. These pulses will be intense in the immediate vicinity of the east bridge abutment, as well as the rock barb dissipaters. Turbidity levels will rapidly attenuate downstream of the source. Therefore, free swimming salmonids that might be irritated by the elevated turbidity levels are likely to move from the affected area. Furthermore, adult steelhead are not expected to be present in the action during the proposed work window. Finally, as mentioned above, the proposed action anticipates these water quality issues and includes measures to decrease the likelihood and extent of any such effects on listed salmonids.

Removal of Riparian Vegetation. The project includes activities that call for removing existing riparian vegetation. To address the environmental results of removed vegetation, the project includes the planting of new riparian vegetation in the action area.

Riparian vegetation links terrestrial and aquatic ecosystems, influences channel processes, contributes organic debris to streams, stabilizes streambanks, and modifies water temperatures (Gregory *et al*. 1991). Removal of vegetation may result in increased water temperatures that would further degrade already impaired water temperatures in the action area. Elevated water temperatures may adversely affect salmonid physiology, growth and development, alter life history patterns, induce disease, and may exacerbate competitive predator-prey interactions (Spence *et al*. 1996). Loss of vegetation also may reduce allochthonous inputs to the stream.

Woody debris provides essential functions in streams including the formation of habitats. Additionally, the removal of vegetation decreases streambank stability and resistance to erosion. Like most of the Lower Walla Walla subbasin, the action area exhibits poor riparian conditions (Kuttel 2001). However, the proposed replanting of disturbed riparian areas will minimize adverse affects on riparian function in the action area.

Streambed and Streambank Alteration. The bank stabilization and protection elements of the proposed action will disturb approximately 600 square feet of streambed and bank at the bridge site. Disturbance includes placing 120 cubic yards of riprap to protect each side of the bridge abutments, and building a rock barb below the ordinary high water line, upstream of the bridge.

The rock barb is intended to alter the hydrology and flow characteristics for a short segment of the South Fork of the Touchet River. Additionally large woody debris and root wads will be strategically positioned in the stream. These structures can create new pools, improving the structural complexity of existing habitat. Furthermore, the addition of large woody debris within the action area will contribute to increased heterogeneous conditions, benefitting salmonids in this segment of the Touchet River.

Worksite Isolation. The proposed action includes specific techniques to limit the exposure of salmonids to certain construction activities that will occur in and around the river. These include temporarily isolating the worksite from the flow of the river, and subsequent removal of water from the isolated area. Although these activities are desirable as they limit fish exposure to certain construction activities, the process of isolating and dewatering the site can strand juvenile salmonids that do not evacuate during isolation activities. To avoid these effects, workers will remove the fish to an upstream location through passive and active removal techniques. Furthermore, workers will gradually dewater the isolated site, enabling qualified staff to physically remove residual fish.

Another effect of isolating the worksite and diverting river flow is temporary loss of macro-invertebrate habitat through burial, desiccation, and displacement. For the proposed action, these effects, associated with worksite isolation would likely be short-lived and tolerated by affected salmonids. Typically, these salmonid food sources would rapidly recolonize a worksite like the one in this proposed action because the isolated area is of small size and the construction activities of short duration.

2.1.2.2 Indirect Effects

Indirect effects are caused by or result from the proposed action, are later in time, and are reasonably certain to occur. Indirect effects may occur outside of the area directly affected by the action. Indirect effects might include other Federal actions that have not undergone section 7 consultation but will result from the action under consideration. These actions must be reasonably certain to occur, or be a logical extension of the proposed action.

The general nature of the structures built under the proposed action will have effects on channel and river banks that manifest well after the completion of the proposed action. These structures are reasonably certain to cause lateral channel shifts, bank erosion, or readjust or fail themselves. The structures constructed under the proposed action are not permanent, or even immobile. While they are intended to influence local physical processes long into the future, their construction renders adjustment or failure a likely occurrence. If the action agency does not intervene before eventual structure failure, any steelhead eggs and intra-gravel fry present in the vicinity of the failure would likely be killed by crushing or smothering. The same would be true of eggs and alevins present adjacent to any incremental shifting of the structures.

2.1.2.3 Population Scale Effects

NOAA Fisheries has estimated the median population growth rate (lambda) for MCR steelhead. Under existing conditions, life history diversity for the affected population of MCR steelhead has been limited by the influence of hatchery fish, by physical barriers that prevent migration to historical spawning and/or rearing areas, and by water temperature barriers that influence the timing of emergence, juvenile growth rates, and the timing of upstream and downstream migration. In addition, hydropower development has profoundly altered the riverine environment and those habitats vital to the survival and recovery of the ESU that is the subject of this consultation.

Pacific salmon populations are substantially affected by environmental variations throughout their life history and range. Ocean conditions affect the productivity of Pacific salmon populations. Stochastic events in freshwater (flooding, drought, snowpack conditions, volcanic eruptions, etc.) can affect a species' likelihood of survival and recovery, but those effects tend to be localized compared to the effects associated with the ocean. The survival and recovery of these species depends on their ability to persist through periods of low natural survival resulting from ocean conditions, climatic conditions, and other conditions outside the action area. Freshwater survival is particularly important during these periods because productivity must be high enough to ensure a sufficient number of adults survive to complete their oceanic migration, return to spawn, and perpetuate the species.

The proposed action affects certain elements of freshwater habitat with the action area. These affects, caused primarily by construction activities, will add mostly short duration changes to habitat causing injury to individual fish by altering their normal behavioral patterns of rearing, feeding, or migrating. Beyond influencing the behavior of individual fish present in the action area, these effects will be insignificant at the population level. Therefore, NOAA Fisheries believes that the proposed action does not contain measures that are likely to influence existing population trends of the affected ESU.

2.1.3 Cumulative Effects

Cumulative effects are defined in 50 CFR 402.02 as "those effects of future state or private activities, not involving Federal activities, that are reasonably certain to occur within the action area of the Federal action subject to consultation." These activities within the action area also have the potential to adversely affect the listed species. Future Federal actions, including the ongoing operation of hydropower systems, hatcheries, fisheries, and land management activities are being reviewed through separate section 7 consultation processes. Federal actions that have already undergone section 7 consultations have been added to the description of the environmental baseline in the action area.

The majority of private actions in the Touchet River watershed are agricultural use of floodplain and upslope areas, roads, and riparian development. These activities affect fish by altering the rate, extent, and quality of the natural ecological processes that create and sustain fish habitat at levels that meet the needs of the affected fish. Examples of such changes include water quality alteration, changes in physical features, and alteration of ecologically normal instream flows.

State, tribal, and local government actions will likely be in the form of legislation, administrative rules or policy initiatives. Government actions might include changes in private ownership and use of land and water resources, any of which could adversely affect listed species or their habitat. While specific government actions are subject to political, legislative, and fiscal uncertainties, changes in the economy have occurred in the last 15 years, and are likely to continue, with less large-scale resource extraction, more targeted extraction, and significant growth in other economic sectors. Growth in new businesses, primarily in the technology sector, is creating urbanization pressures and increased demand for buildable land, electricity, water supplies, waste-disposal sites, and other infrastructure.

Economic diversification has contributed to population growth and movement, and this trend is likely to continue. Such population trends will result in greater demands for electricity, water, and buildable land in the action area, and will increase the need for transportation, communication, and other infrastructure. These economic and population demands will probably affect habitat features such as water quality and quantity, which are important to the survival and recovery of the listed species. The overall effect will likely be negative, unless carefully planned for, and avoided or mitigated.

The state of Washington has various strategies and programs designed to improve the habitat of listed species and assist in recovery planning. Washington's 1998 Salmon Recovery Planning Act provided the framework for developing watershed restoration projects and established a funding mechanism for local habitat restoration projects. The Watershed Planning Act, also passed in 1998, encourages voluntary planning by local governments, citizens, and Tribes for water supply and use, water quality, and habitat at the Water Resource Inventory Area or multi-Water Resource Inventory Area level. Washington's Department of Fish and Wildlife and tribal co-managers have been implementing the Wild Stock Recovery Initiative since 1992. The co-managers are completing comprehensive species management plans that examine limiting factors and identify needed habitat activities. Water quality improvements will be proposed through development of Total Maximum Daily Loads (TMDLs). The state of Washington is under a court order to develop TMDL management plans on each of its 303(d) water-quality listed streams. It has developed a schedule that is updated yearly; the schedule outlines the priority and timing of TMDL plan development. These efforts should help improve habitat for listed species. Washington State closed the mainstem Columbia River to new water rights appropriations in 1995, but lifted this moratorium in 2002. The state has proposed to mitigate the effects of new water appropriations by purchasing or leasing replacement water when Columbia River flow targets are not met. However, the efficacy of this program is unknown at the present time.

2.1.4 Conclusion

NOAA Fisheries has reviewed the direct and indirect effects, and cumulative effects of the proposed action on the above listed species and their habitat. The proposed action is likely to cause short-term, adverse effects on listed salmonids through habitat modification, including temporary decreases in water quality, habitat access, and food availability.

These effects are unlikely to reduce salmonid distribution, reproduction, or numbers in any meaningful way. Furthermore, adverse effects will be minimized through the use of BMP. This conclusion is based on the following factors: (1) timing restrictions for in-water construction will minimize impacts to fish and their habitat; (2) replacement of the existing unimproved ford by a bridge will improve water quality and channel conditions for all life stages of salmonids; and (3) riparian vegetation removal will be minimized and replaced. NOAA Fisheries concludes that the proposed action is not likely to impair properly functioning habitat or appreciably reduce the functioning of already impacted habitat. Furthermore, NOAA Fisheries concludes that the proposed action is unlikely to adversely influence existing population trends or risks in the action area. Overall, the proposed activities are not expected to appreciably reduce the likelihood of survival of MCR steelhead. Therefore, the proposed action is not likely to jeopardize the continued existence of MCR steelhead.

2.1.5 Reinitiation of Consultation

As provided in 50 CFR 402.16, reinitiation of formal consultation is required if: (1) The amount or extent of taking specified in the Incidental Take Statement is exceeded, or is expected to be exceeded; (2) new information reveals effects of the action may affect listed species in a way not previously considered; (3) the action is modified in a way that causes an effect on listed species that was not previously considered; or (4) a new species is listed that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease, pending conclusion of the reinitiated consultation.

2.2 Incidental Take Statement

The ESA at section 9 (16 U.S.C. 1538) prohibits take of endangered species. The prohibition of take is extended to threatened anadromous salmonids by section 4(d) rule (50 CFR 223.203). Take is defined by the statute as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct" (16 U.S.C. 1532(19)). Harm is defined by regulation as "an act which actually kills or injures fish or wildlife. Such an act may include significant habitat modification or degradation which actually kills or injures fish or wildlife by significantly impairing essential behavior patterns, including, breeding, spawning, rearing, migrating, feeding or sheltering" (50 CFR 222.102). Harass is defined as "an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding, or sheltering" (50 CFR 17.3). Incidental take is defined as "takings that result from, but are not the purpose of, carrying out an otherwise lawful activity conducted by the Federal agency or applicant" (50 CFR 402.02). The ESA at section 7(o)(2) removes the prohibition from any incidental taking that is in compliance with the terms and conditions specified in a section 7(b)(4) incidental take statement (16 U.S.C. 1536).

An incidental take statement specifies the impact of any incidental taking of endangered or threatened species. It also provides reasonable and prudent measures that are necessary to minimize impacts and sets forth terms and conditions with which the action agency must comply in order to implement the reasonable and prudent measures.

2.2.1 Amount or Extent of Take

As stated in section 2.1.2, above, MCR steelhead use the action area for migrating, spawning, and rearing. The MCR steelhead are likely to be present in the action area any day of the year, including during construction of the proposed project. Therefore, incidental take of these listed fish is reasonably certain to occur. The proposed action includes measures to reduce the likelihood and amount of incidental take. To ensure the action agency will implement these measures, they are restated as Terms and Conditions below.

Take is reasonably certain to occur in the form of harm or habitat modification to an extent that impairs essential behaviors including feeding, migrating, and sheltering. The mechanisms of harm from the proposed action include the loss of food items from streambed disturbance, water quality decreased by sediment mobilization during the installation and removal of cofferdams, injury or death from capturing and handling, and injury or death of residual fish in the dewatered

isolated worksite (within the cofferdams). The amount or extent of take is difficult, if not impossible to estimate because of the highly variable nature of presence of anadromous species over time, and the inexact relationship between habitat condition and fish use. In instances where the number of individual animals to be taken cannot be reasonably estimated, NOAA Fisheries uses a surrogate approach. The surrogate should provide an obvious threshold of exempted take which, if exceeded, provides a basis for reinitiating consultation.

NOAA Fisheries anticipates that the number of fish injured or killed by the proposed action is that which accrues from disturbing 600 square feet of streambank and streambed. Should this threshold be exceeded during project activities, the reinitiation provisions of this Opinion apply.

2.2.2 Reasonable and Prudent Measures

Reasonable and Prudent Measures (RPMs) are non-discretionary measures to minimize take, which may or may not already be part of the description of the proposed action. They must be implemented as binding conditions for the exemption in section 7(o)(2) to apply. The BPA has the continuing duty to regulate the activities covered in this incidental take statement. If BPA fails to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, or fails to retain the oversight to ensure compliance with these terms and conditions, the protective coverage of section 7(o)(2) may lapse. NOAA Fisheries believes that activities carried out in a manner consistent with these reasonable and prudent measures, except those otherwise identified, will not necessitate further site-specific consultation. Activities which do not comply with all relevant reasonable and prudent measures will require further consultation.

NOAA Fisheries believes that the following reasonable and prudent measure is necessary and appropriate to minimize take of listed fish resulting from implementation of the action:

1. The BPA will ensure minimization of incidental take from in-water construction activities by restricting the timing, duration, and extent of construction that adversely affects aquatic systems.

2. The BPA will ensure minimization of incidental take from construction activities near the stream by minimizing the risk of effects from erosion and water pollution.

3. The BPA will ensure minimization of incidental take from fish capture and removal.

4. The BPA will ensure minimization of take from effects on riparian and instream habitat.

2.2.3 Terms and Conditions

To be exempt from the prohibitions of section 9 of the ESA, the action must be implemented in compliance with the following terms and conditions, which implement the reasonable and prudent measure described above. These terms and conditions are non-discretionary.

1. To implement the RPM No. 1 above BPA shall ensure that:

a. Timing of In-Water Work. To limit project work during the time of the year most appropriate for the project location to minimize adverse effects to ESA-listed fish by conducting work when ESA-listed fish are less likely to be present or where spawning is not eminent, actively occurring, or recently completed. Complete work below bankfull elevation during the recommended in-water work period for the project area of July 15 through August 20, unless otherwise approved in writing by NOAA Fisheries.

b. Site Preparation. The BPA shall:

(1) Flag boundaries of clearing limits associated with site access, riparian crossings, stream crossings, staging and stockpile areas to minimize overall disturbance and disturbance to critical vegetation.

(2) Establish staging areas (used for construction equipment storage, vehicle storage, fueling, servicing, etc) along existing roadways or turnouts beyond the 100-year floodprone area in a location and manner that will preclude erosion into or contamination of the stream or floodplain.

(3) Minimize clearing and grubbing activities and stockpile large wood, trees, riparian vegetation, other vegetation, sand, and topsoil removed for establishment of staging area for site restoration.

(4) Place sediment barriers around disturbed sites to prevent erosion and sedimentation associated with equipment and material storage sites, fueling operations, and staging areas from entering the stream directly, through natural drainage or road side ditches.

(5) Monitor and maintain erosion controls until site restoration is complete.

(6) If monitoring or inspection shows that the erosion controls are ineffective, mobilize work crews immediately to make repairs, install replacements, or install additional controls as necessary.

2. To implement the RPM No. 2 above BPA shall ensure that:

a. Pollution and Erosion Control Plan (PECP). The BPA shall develop a PECP that includes methods and measures to minimize erosion and sedimentation associated with the project. The PECP elements shall be in place before and at all times during the appropriate construction phases. The elements of water quality; spill prevention control and containment; site preparation; heavy equipment usage; earth moving; temporary stream crossings; dewatering; flow reintroduction; and site restoration should be included in the PECP.

b. Spill Prevention Control and Containment Plan (SPCP). The BPA shall develop or verify the existence of a SPCP for the project. The SPCP will include the following:

(1) A description of any regulated or hazardous products or materials that will be used for the project, including procedures for inventory, storage, handling, and monitoring.

(2) Notification procedures, specific cleanup and disposal instructions for different products, quick response containment and cleanup measures that will be available on the site, proposed methods for disposal of spilled materials, and employee training for spill containment.

c. Heavy Equipment. The BPA shall minimize fuel/oil leakage from construction equipment into the stream channel and floodplain through the following:

(1) All equipment used for instream work shall be cleaned and leaks repaired before arriving at the project site. Remove external oil and grease, along with dirt and mud. Inspect all equipment before unloading at site. Thereafter, inspect equipment daily for leaks or accumulations of grease, and fix any identified problems before entering streams or areas that drain directly to streams or wetlands.

(2) Equipment used for instream or riparian work shall be fueled and serviced in an established staging area. When not in use, vehicles will be stored in the staging area.

(3) Two oil-absorbing, floating booms appropriate for the size of the stream shall be available on site during all phases of construction whenever surface water is present. Place booms in a location that facilitates an immediate response to potential petroleum leakage.

(4) Diaper all stationary power equipment (*e.g.*, generators) operated within 150 feet of any stream, waterbody or wetland to prevent leaks, unless suitable containment is provided to prevent potential spills from entering any stream or waterbody.

d. Earthmoving. The BPA shall minimize sedimentation resulting from earthmoving construction activities through the following:

(1) Minimize amounts of construction debris and soil falling into streams by installing appropriate erosion control barriers before construction. Such barriers should be maintained throughout the related construction and removed only when construction is complete. When possible, remove debris or large earth spills that have fallen into the channel.

(2) Delineate construction impact areas on project plans and confine work to the noted area. Confine construction impacts to the minimum area necessary to complete the project.

(3) Keep a supply of erosion control materials (*e.g.*, silt fence and straw bales) on hand to respond to sediment emergencies. Use sterile straw or weed free certified straw bales to prevent introduction of non-native weeds.

(4) Cease all project operations, except efforts to minimize storm or high flow erosion, under high flow conditions that result in inundation of the project area.

e. Site Restoration. The BPA shall minimize sedimentation through site restoration by including the following:

(1) Upon project completion, remove project-related waste. Initiate rehabilitation of all disturbed areas in a manner that results in similar or better than pre-work conditions through spreading of stockpiled materials, seeding, and/or planting with native seed mixes or plants. If native stock is not available, use soil-stabilizing vegetation (seed or plants) that does not lead to propagation of non-native species.

(2) Develop a restoration work plan with sufficient detail to include a description of the following elements, as applicable:

i. A plan to control non-native invasive vegetation.
ii. Site management and maintenance requirements.

(3) No herbicide application will occur as part of the permitted action. Mechanical removal of undesired vegetation and root nodes is permitted.

(4) When necessary, loosen compacted access roads, stream crossings, stream channel within the de-watered work area, staging, and stockpile areas.

(5) Instream or floodplain restoration materials such as large wood and boulders shall mimic as much as possible those found in the project vicinity. Such materials may be salvaged from the project site or hauled in from offsite but cannot be taken from streams, wetlands, or other sensitive areas.

(6) Complete necessary site restoration activities within five days of the last construction phase. Replant each area requiring vegetation before the first April 15 following construction.

f. Salvage Notice. Include the following notice in writing to each party that will supervise completion of the action.

NOTICE. If a sick, injured, or dead specimen of a threatened or endangered species is found, the finder must notify the Northwest Office of NOAA Fisheries Law Enforcement at (206) 526-6133. The finder must take care in handling of

sick or injured specimens to ensure effective treatment, and in handling dead specimens to preserve biological material in the best possible condition for later analysis of cause of death. The finder also has the responsibility to carry out instructions provided by Law Enforcement to ensure that evidence intrinsic to the specimen is not disturbed unnecessarily.

3. To implement the RPM No. 3 above BPA shall ensure that:

   a. Prior to cofferdam closure, fish will be removed from the area by a qualified fishery scientist experienced in such efforts and all staff working with the seining operation must have the necessary knowledge, skills, and abilities.

   b. Listed fish must be handled with extreme care, and kept in water to the maximum extent possible during capture and transfer procedures. The transfer of ESA-listed fish must be conducted using a sanctuary net that holds water during transfer, whenever necessary to prevent the added stress of an out-of-water transfer.

   c. To ensure the safe handling of all ESA-listed fish, in this specific order:

      (1) herding them out before cofferdam closure;
      (2) beach seining;
      (3) dipnets;
      (4) electrofisher; fish may be captured using electrofishing gear as described in NOAA Fisheries guidelines (NMFS 2000).

   d. Captured fish must be released in appropriate habitat, as near as possible to, but downstream of the capture site.

   e. ESA listed fish will not be marked or anaesthetized.

   f. All take of listed salmonids during work area isolation must be documented and reported using the format attached in Appendix 1. The BPA will ensure that NOAA Fisheries receive the monitoring reports of take within one month beginning when the initial work area isolation activities commence until in-water construction activities cease.

   g. In the event that listed steelhead are killed or injured during the herding and netting process, the qualified fishery scientist will immediately contact NOAA Fisheries.

4. To implement RPM No. 4 above, BPA shall monitor riparian plantings annually by April 15 of each year for a period of 5 years to guarantee a minimum survival rate of 85%. At the end of each year all dead plants shall be replaced. Reports including photo documentation shall be submitted to NOAA Fisheries, Washington State Habitat Office, Attention: Debbie Spring, 510 Desmond Drive SE, Suite 103, Lacey, Washington 98503.

3.0 MAGNUSON-STEVENS FISHERY CONSERVATION AND MANAGEMENT ACT

3.1 Background

The MSA established procedures designed to identify, conserve, and enhance EFH for those species regulated under a Federal fisheries management plan. Pursuant to the MSA:

- Federal agencies must consult with NOAA Fisheries on all actions, or proposed actions, authorized, funded, or undertaken by the agency, that may adversely affect EFH (section 305(b)(2));

- NOAA Fisheries must provide conservation recommendations for any Federal or State action that would adversely affect EFH (section 305(b)(4)(A));

- Federal agencies must provide a detailed response in writing to NOAA Fisheries within 30 days after receiving EFH conservation recommendations. The response must include a description of measures proposed by the agency for avoiding, mitigating, or offsetting the impact of the activity on EFH. In the case of a response that is inconsistent with NOAA Fisheries EFH conservation recommendations, the Federal agency must explain its reasons for not following the recommendations (section 305(b)(4)(B)).

The term "EFH" means those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity (MSA section 3). For the purpose of interpreting this definition of EFH: Waters include aquatic areas and their associated physical, chemical, and biological properties that are used by fish and may include aquatic areas historically used by fish where appropriate; substrate includes sediment, hard bottom, structures underlying the waters, and associated biological communities; necessary means the habitat required to support a sustainable fishery and the managed species' contribution to a healthy ecosystem; and "spawning, breeding, feeding, or growth to maturity" covers a species' full life cycle (50 CFR 600.10). Adverse effect means any impact which reduces quality and/or quantity of EFH, and may include direct (*e.g.*, contamination or physical disruption), indirect (*e.g.*, loss of prey or reduction in species fecundity), site-specific or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions (50 CFR 600.810).

An EFH consultation with NOAA Fisheries is required regarding any Federal agency action that may adversely affect EFH, including actions that occur outside EFH, such as certain upstream and upslope activities.

The objectives of this EFH consultation are to determine whether the proposed action would adversely affect designated EFH and to recommend conservation measures to avoid, minimize, or otherwise offset potential adverse effects to EFH.

3.2 Identification of Essential Fish Habitat

Pursuant to the MSA the Pacific Fisheries Management Council (PFMC) has designated EFH for three species of Federally-managed Pacific salmon: Chinook (*Oncorhynchus tshawytscha*); coho (*O. kisutch*); and Puget Sound pink salmon (*O. gorbuscha*) (PFMC 1999). Freshwater EFH for

Pacific salmon includes all those streams, lakes, ponds, wetlands, and other water bodies currently, or historically accessible to salmon in Washington, Oregon, Idaho, and California, except areas upstream of certain impassable man-made barriers (as identified by the PFMC 1999), and longstanding, naturally impassable barriers (*i.e.*, natural waterfalls in existence for several hundred years). Detailed descriptions and identifications of EFH for salmon are found in Appendix A to Amendment 14 to the Pacific Coast Salmon Plan (PFMC 1999). Assessment of potential adverse effects to these species' EFH from the proposed action is based, in part, on this information.

3.3 Proposed Actions

The proposed action and action area are detailed above in section 1.2 and 1.3 of this document. The action area includes habitats that have been designated as EFH for various life-history stages of chinook salmon.

3.4 Effects of Proposed Action

As described in detail in section 2.2 of this document, the proposed action may result in short and adverse effects to a variety of habitat parameters.

1. The proposed action will result in a temporary risk of contamination of waters through the accidental spill or leakage of petroleum products from heavy equipment.

2. The proposed action will result in a short-term degradation of water quality (turbidity) because of instream construction activities.

3.5 Conclusion

NOAA Fisheries concludes that the proposed action will adversely affect designated EFH for chinook salmon.

3.6 Essential Fish Habitat Conservation Recommendations

Pursuant to section 305(b)(4)(A) of the MSA, NOAA Fisheries is required to provide EFH conservation recommendations to Federal agencies regarding actions which may adversely affect EFH. NOAA Fisheries understands that the conservation measures described in the BA will be implemented by BPA, and believes these measures are sufficient to minimize, to the maximum extent practicable, the following EFH effects; contamination of waters, suspended sediment, sound, benthic habitat removal, and predation. However, these conservation measures are not sufficient to fully address the remaining adverse affects to EFH. Consequently, NOAA Fisheries recommends that BPA implement the following conservation measures to minimize the potential adverse effects on EFH for chinook:

1. To minimize EFH adverse effect No. 1 and No. 2, BPA should ensure that:

    a. <u>Site Preparation:</u>

(1) Flag boundaries of clearing limits associated with site access, riparian crossings, stream crossings, staging and stockpile areas to minimize overall disturbance and disturbance to critical vegetation.

(2) Establish staging areas (used for construction equipment storage, vehicle storage, fueling, servicing, etc) along existing roadways or turnouts beyond the 100-year floodprone area in a location and manner that will preclude erosion into or contamination of the stream or floodplain.

(3) Minimize clearing and grubbing activities and stockpile large wood, trees, riparian vegetation, other vegetation, sand, and topsoil removed for establishment of staging area for site restoration.

(4) Place sediment barriers around disturbed sites to prevent erosion and sedimentation associated with equipment and material storage sites, fueling operations, and staging areas from entering the stream directly, through natural drainage or road side ditches.

(5) Monitor and maintain erosion controls until site restoration is complete.

(6) If monitoring or inspection shows that the erosion controls are ineffective, mobilize work crews immediately to make repairs, install replacements, or install additional controls as necessary.

b. Pollution and Erosion Control Plan (PECP). The BPA shall develop a PECP that includes methods and measures to minimize erosion and sedimentation associated with the project. The PECP elements shall be in place before and at all times during the appropriate construction phases. The elements of water quality; spill prevention control and containment; site preparation; heavy equipment usage; earth moving; temporary stream crossings; dewatering; flow reintroduction; and site restoration should be included in the PECP.

c. Spill Prevention Control and Containment Plan (SPCP). The BPA shall develop or verify the existence of a SPCP for the project. The SPCP will include the following:

(1) A description of any regulated or hazardous products or materials that will be used for the project, including procedures for inventory, storage, handling, and monitoring.

(2) Notification procedures, specific cleanup and disposal instructions for different products, quick response containment and cleanup measures that will be available on the site, proposed methods for disposal of spilled materials, and employee training for spill containment.

d. Heavy Equipment. The BPA shall minimize fuel/oil leakage from construction equipment into the stream channel and floodplain through the following:

(1) All equipment used for instream work shall be cleaned and leaks repaired before arriving at the project site. Remove external oil and grease, along with dirt and mud. Inspect all equipment before unloading at site. Thereafter, inspect equipment daily for leaks or accumulations of grease, and fix any identified problems before entering streams or areas that drain directly to streams or wetlands.

(2) Equipment used for instream or riparian work shall be fueled and serviced in an established staging area. When not in use, vehicles will be stored in the staging area.

(3) Two oil-absorbing, floating booms appropriate for the size of the stream shall be available on site during all phases of construction whenever surface water is present. Place booms in a location that facilitates an immediate response to potential petroleum leakage.

(4) Diaper all stationary power equipment (*e.g.*, generators) operated within 150 feet of any stream, waterbody or wetland to prevent leaks, unless suitable containment is provided to prevent potential spills from entering any stream or waterbody.

e. Earthmoving. The BPA shall minimize sedimentation resulting from earthmoving construction activities through the following:

(1) Minimize amounts of construction debris and soil falling into streams by installing appropriate erosion control barriers before construction. Such barriers should be maintained throughout the related construction and removed only when construction is complete. When possible, remove debris or large earth spills that have fallen into the channel.

(2) Delineate construction impact areas on project plans and confine work to the noted area. Confine construction impacts to the minimum area necessary to complete the project.

(3) Keep a supply of erosion control materials (*e.g.*, silt fence and straw bales) on hand to respond to sediment emergencies. Use sterile straw or weed free certified straw bales to prevent introduction of non-native weeds.

(4) Cease all project operations, except efforts to minimize storm or high flow erosion, under high flow conditions that result in inundation of the project area.

f. Site Restoration. The BPA shall minimize sedimentation through site restoration by including the following:

(1) Upon project completion, remove project-related waste. Initiate rehabilitation of all disturbed areas in a manner that results in similar or better than pre-work conditions through spreading of stockpiled materials, seeding, and/or planting with native seed mixes or plants. If native stock is not available, use soil-stabilizing vegetation (seed or plants) that does not lead to propagation of non-native species.

(2) Develop a restoration work plan with sufficient detail to include a description of the following elements, as applicable:

i. A plan to control non-native invasive vegetation.
ii. Site management and maintenance requirements.

(3) No herbicide application will occur as part of the permitted action. Mechanical removal of undesired vegetation and root nodes is permitted.

(4) When necessary, loosen compacted access roads, stream crossings, stream channel within the de-watered work area, staging, and stockpile areas.

(5) Instream or floodplain restoration materials such as large wood and boulders shall mimic as much as possible those found in the project vicinity. Such materials may be salvaged from the project site or hauled in from offsite but cannot be taken from streams, wetlands, or other sensitive areas.

(6) Complete necessary site restoration activities within five days of the last construction phase. Replant each area requiring vegetation before the first April 15 following construction.

3.7 Statutory Response Requirement

Pursuant to the MSA (section 305(b)(4)(B)) and 50 CFR 600.920(k), Federal agencies are required to provide a detailed written response to NOAA Fisheries' EFH conservation recommendations within 30 days of receipt of these recommendations. The response must include a description of measures proposed to avoid, mitigate, or offset the adverse impacts of the activity on EFH. In the case of a response that is inconsistent with the EFH conservation recommendations, the response must explain the reasons for not following the recommendations, including the scientific justification for any disagreements over the anticipated effects of the proposed action and the measures needed to avoid, minimize, mitigate, or offset such effects.

3.8 Supplemental Consultation

The BPA must reinitiate EFH consultation with NOAA Fisheries if the proposed action is substantially revised in a manner that may adversely affect EFH, or if new information becomes available that affects the basis for NOAA Fisheries' EFH conservation recommendations (50 CFR 600.920(l)).

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Appendix I. Summary of Subbasin and Watershed Conditions in the Action Area

MPI Pathways	MPI Indicators	Properly Functioning	Functioning at Risk	Not Properly Functioning
Water Quality	Temperature			X
	Sediment		X	
	Chem/Cont.	X		
Access	Physical barriers		X	
Habitat Elements	Substrate embed.		X	
	Large Woody Debris		X	
	Pool Freq./Quality		X	
	Off Channel Habitat		X	
	Refugia		X	
Channel Conditions & Dynamics	Width/depth ratios		X	
	Streambank conditions		X	
	Floodplain connectivity		X	
Flow/Hydrology	Change in Peak Base flow		X	
	Drainage Network Incr.		X	
Watershed Condition	Road Density and Location		X	
	Disturbance History		X	
	RHCAs		X	
	Disturbance Regime		X	

***** checklist for bull trout (USFWS 1998)

APPENDIX II

In-Water Construction Monitoring Report

In-Water Construction Monitoring Report
Touchet-Bernard Bridge Project (NOAA Fisheries WSB-02-196)

State Date: _____
End Date: _____

Waterway: South Fork Touchet River (6th Field HUC, 170701020304)

Construction Activities:

_____
_____
_____
_____
_____

Number of fish observed: _____
Number of salmonid juveniles observed (what kind?): _____
Number of salmonid adults observed (what kind?): _____

What were fish observed doing prior to construction? _____
_____
_____
_____

What did the fish do during and after the construction? _____
_____
_____
_____

Number of fish stranded as a result of this activity: _____

Send report to:

National Marine Fisheries Service, Washington State Habitat Office, 510 Desmond Dr. SE, Suite 103, Lacey, Washington 98503